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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Woo Sik Yoo

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12/23/2004

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EXAMINER

DONG, DALEI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/815,678

Applicant(s)

YOO, WOO SIK

Examiner

Dalei Dong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-45 and 47-54 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 33-45 and 47-54 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 33, 35 and 37-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,861,302 to Antal in view of U.S. Patent No. 3,529,208 to Frungel.

Regarding to claim 33, Antal discloses in Figure 2, a method of exchanging gases in a light source comprising: providing a hollow tube (3) having a first end with a first endcap and a second end with a second endcap, an inlet valve (4) and a first electrode (shown in Figure 2) associated with the first end and an outlet valve (4') and a second electrode (shown in Figure 2); opening the inlet and outlet valves to provide for a simultaneous exchange of gases between said first electrode and said second electrode; flowing a first gas (flushing gas) from between said first and second electrodes out of the light source through the outlet valve (see column 2, lines 45-51).

Antal further discloses in a different embodiment simultaneously flowing a second gas (fill gas) through the inlet valve into between said first and second electrodes, said first gas being different from said second gas; and closing the inlet and outlet valves (see column 4, lines 28-36).

However, Antal does not disclose supplying a first gas without a pump and flowing a second gas without a pump. It is old and well known in the art to have supply and flow gases without using a pump, the mere gas pressure is sufficient to supply and flow gases into and out of tubes. Frungel teaches supplying a first gas and flowing a second gas without a pump instead utilizes the gas pressure of the gas itself and adjusting the pressure of the gas within the tube by opening and closing valves without pump (see column 3, lines 1-16).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the changeover valve of Antal for the different gases without using a pump of Frungel in order to aid the switching over from flushing gas to fill gas and further reduce the cost of manufacturing the light source and further enable the lamp to modify the light intensity and light distribution.

Regarding to claim 35, Antal discloses the second gas is selected from the group consisting of: inert gases, krypton, argon, neon, xenon helium, mercury, neon/helium mixture, neon/argon mixture. Oxygen, hydrogen, deuterium, and nitrogen.

Regarding to claim 37, Antal discloses the inlet and outlet valves include seals to prevent gas from leaking past or through the valves from the tube.

Regarding to claim 38, Antal discloses the claimed invention except for the hollow tube comprises a straight hollow tube shape. It is old and well known in the art to

shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establish the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a structure of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 39, Antal discloses the claimed invention except for the hollow tube comprises a serpentine shaped hollow tube. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establish the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a structure of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 40, Antal discloses the claimed invention except for the hollow tube comprises a lamp array of serially connected light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establish the criticality of the shape

of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 41, Antal discloses the claimed invention except for the hollow tube comprises a rectangular planar shaped hollow tube. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 42, Antal discloses the claimed invention except for the hollow tube comprises a spiral shaped hollow tube. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that

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to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 43, Antal discloses the claimed invention except for the hollow tube comprises a ring shaped hollow tube. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 44, Antal discloses the claimed invention except for the hollow tube comprises a channel shaped hollow tube. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must

affect the method in a manipulative sense, and not to amount to the mere claiming of a
sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

3. Claims 34 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.
Patent No. 4,861,302 to Antal in view of U.S. Patent No. 3,529,208 to Frungel and in
further view of U.S. Patent No. 4,303,290 to Tsunekawa.

Regarding to claim 34, Antal in view of Frungel discloses a method of
exchanging gases in a light source wherein opening the inlet and outlet valves to provide
for a simultaneous exchange of gases between said first electrode and the second
electrode; flowing a first gas from between said first and second electrodes out of the
light source through the outlet valve without a pump, and simultaneously flowing a
second gas through the inlet valve into between said first and second electrodes without a
pump, said first gas being different from said second gas.

Antal does not disclose the first gas is selected from the group consisting of: inert
gases, krypton, argon, neon, xenon, helium, mercury, neon/helium mixture, neon/argon
mixture. Oxygen, hydrogen, deuterium, and nitrogen.

Tsunekawa teaches the uses of inert gases of krypton, argon and neon for the
purpose of evacuating a light source as quickly and easily as possible (see column 2, lines
57-63).

It would have been obvious to one having ordinary skill in the art at the time the
invention was made to have utilize the old and well known gases of Tsunekawa and the

pump less exchanging gas of Frungel for the gas exchanging system of Antal in order to provide a method of evacuating a light source as quickly and easily as possible.

Regarding to claim 36, Antal in view of Frungel and in further view of Tsunekawa discloses the first gas is selected from the group consisting of: inert gases, krypton, argon, neon, xenon helium, mercury, neon/helium mixture, neon/argon mixture. Oxygen, hydrogen, deuterium, and nitrogen; and the second gas is selected from the group consisting of: inert gases, krypton, argon, neon, xenon helium, mercury, neon/helium mixture, neon/argon mixture. Oxygen, hydrogen, deuterium, and nitrogen and the motivation to combine is the same as above.

4. Claims 45 and 47-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,861,302 to Antal in view of U.S. Patent No. 4,005,324 to Dolenga.

Regarding to claim 45, Antal discloses a method of exchanging gases in a light source: opening a first valve (4) of the light source, and opening a second valve (4') of the light source to allow a gas to substantially simultaneously flow through said first and second valves, pumping a first gas (flushing gas) initially located within the light source out of the light source while pumping a second gas (fill gas) into the light source, said second gas being different from said first gas; and closing each valve of the light source (see column 2, line 44 to column 3, line 16).

However, Antal does not disclose one of the first and second gas is selected from the group consisting of mercury, oxygen, hydrogen, deuterium and nitrogen. Dolenga

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teaches one of the first and second gas is selected from the group consisting of mercury, oxygen, hydrogen, deuterium and nitrogen (see column 5, line 53 to column 6, line 25).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the gas of Dolenga for the one of the first and second gas of Antal in order to efficiently exchange the gases of the lamp without influencing the operation of the lamp.

Regarding to claim 47, Antal discloses the claimed invention except for the light source is a straight light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a structure of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 48, Antal discloses the claimed invention except for the light source is a serpentine light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by

one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 49, Antal discloses the claimed invention except for the light source is a lamp array of serially connected light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 50, Antal discloses the claimed invention except for the light source is a rectangular planar light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method

in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 51, Antal discloses the claimed invention except for the light source is a spiral shaped light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 52, Antal discloses the claimed invention except for the light source is a ring shaped light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 53, Antal discloses the claimed invention except for the light source is a channel light source. It is old and well known in the art to shape the lamp into different shapes in order to accommodate the design specification. Further, Applicant does not establishes the criticality of the shape of the lamp to the invention and hence, the different shape of the lamp can be determined by routine experimentation by one having ordinary skill in the art. Furthermore, it has been held that to be entitled to weight in method claims the recited-structure limitations therein must affect the method in a manipulative sense, and not to amount to the mere claiming of a sue of a particular structure. *Ex Parte Pfeiffer*, 1962 C.C. 408 (1961).

Regarding to claim 54, Antal discloses the valves are open/close valves.

Response to Arguments

5. Applicant's arguments with respect to claims 33-54 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of method of forming a lamp.

U.S. Patent No. 1,602,634 to Anderson.

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7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

December 21, 2004



Joseph Williams
Primary Examiner
Art Unit 2879